		NTSB ID: DEN02FA084		Aircraft Registration Number: N7383G	
		Occurrence Date: 07/31/2002		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Greeley		State CO	Zip Code 80631	Local Time 1659	Time Zone MDT
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Cessna		Model/Series 172K		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>HISTORY OF FLIGHT</p> <p>On July 31, 2002, at 1659 mountain daylight time, Cessna 172K, N7383G, was destroyed when it impacted runway 9 approximately 30 seconds after takeoff from Greeley-Weld County Airport, Greeley, Colorado. The flight instructor was seriously injured and the student pilot was fatally injured. Light Plane Rentals of Greeley, Colorado, was operating the airplane under Title 14 CFR Part 91. Visual meteorological conditions prevailed for the local instructional flight which was originating at the time of the accident. The pilot had not filed a flight plan.</p> <p>The flight instructor said he had flown with the student pilot on two previous occasions, for approximately 3.7 hours. He said that the student had "shown a good feel for the controls and was able to maintain altitude well." The flight instructor said, on the day of the accident, while doing the preflight inspection of the airplane, the student "seemed a bit confused momentarily, having departed from the checklist to borrow the [fuel] strainer, but then he got back in step and completed the remaining items without incident."</p> <p>The flight instructor said that student performed the engine start up and he taxied to the end of the runway with no apparent difficulty. He said the student taxied onto the runway, advanced the throttle, and accelerated down the runway centerline. He said the student rotated the airplane at 60 mph (miles per hour; the correct speed without flaps), and performed a normal climb for 5-10 seconds, and then began to level off at about 50 feet. The flight instructor said the airspeed increased to above 80 mph. He said he took hold of the yoke and assisted the student in adjusting the airplane's pitch to resume the departure climb, and then gave full aircraft control back to the student.</p> <p>The flight instructor said that he looked out of the airplane to see if there were any airplanes landing on final approach for runway 34. Suddenly, and without warning, he said "the controls went to the full forward position and we went into a dive directly over the runway at a height of about 100 feet." He said the dive was so steep, that the wind screen was "nothing but runway."</p> <p>The flight instructor said he "immediately reached forward, grabbed the yoke and pulled it [the airplane] out of the dive." He said he simultaneously exclaimed, "what are you doing?" He said the student did not reply, but maintained his hold on the yoke and offered no resistance. The instructor said that the airplane was too close to the ground to fully recover, subsequently "we crashed into the runway." He said that after the airplane came to rest, "a fire started at the front of the cowling and quickly spread. I told the student to unbuckle his belt and slide his seat back, and simultaneously I unbuckled my own, but realized I had no response from my legs as I tried to move my seat. I dove out of the plane and landed on the ground. My legs were caught in the radio cord, and lying on my back, I pulled the cord to release them." He said he "scoted away from the plane by pushing with my arms."</p>					
FACTUAL REPORT - AVIATION					

National Transportation Safety Board

**FACTUAL REPORT****AVIATION**

NTSB ID: DEN02FA084

Occurrence Date: 07/31/2002

Occurrence Type: Accident

**Narrative** (Continued)

A witness, who was performing a pre-takeoff engine run up, said the accident airplane's "takeoff roll appeared normal, and the rotation and climb looked good (not too steep)." He said "the airplane got to about 200 feet when suddenly (abruptly) it nosed over very steeply towards the runway. As the airplane neared the runway, it began to level off (with wings level)." He said that a short time after the airplane came to rest on the runway, it began to burn. Another witness, part of an airport construction crew, said he approached the flight instructor to render assistance. He said the instructor said to him, "I couldn't get the controls back from him quick enough."

The flight instructor reported that the airplane's stall horn never sounded during the flight.

**PERSONAL INFORMATION**

The flight instructor took his last second class Federal Aviation Administration (FAA) flight medical examination on February 1, 2002. His flight logbook indicates that he started flying in September of 1989, and had accumulated approximately 830 hours of flight experience by the time of the accident. He is an instrument rated commercial pilot, in both single engine and multiengine aircraft. He earned his flight instructor's certificate in December, 2000, and had accumulated approximately 230 hours of instructors experience.

The student pilot did not have a FAA flight medical. The accident flight was his third flight lesson.

**AIRCRAFT INFORMATION**

The airplane was a single engine, propeller-driven, fixed gear, four seat airplane, which was manufactured by Cessna Aircraft Company, in 1970. It was powered by a Lycoming O-320-E20, four cylinder, reciprocating, horizontally opposed, direct drive, air cooled, normally aspirated (carbureted) engine which had a maximum takeoff rating of 150 horsepower at sea level. The airplane had a maximum gross weight capability of 2,300 pounds; its empty weight, when last recorded in August 20, 1992, was 1,406 pounds. Aircraft maintenance records indicate that the last annual inspection was accomplished on April 1, 2002. The airplane's tachometer indicated (at the time of the accident) that it had accumulated approximately 7,734 hours of flight time, and the engine had approximately 220 hours since overhaul.

Another pilot said that he flew the accident airplane on the morning of the accident. He said his takeoff climb out was flown at 70 mph, which achieved an approximate 500 feet per minute rate of climb. He said that as the day heated up, climb performance would have deteriorated to approximately 250 to 300 feet per minute. He said "all the [flight] controls appeared to be operating just fine."

**METEOROLOGICAL INFORMATION**

At 1645, the weather conditions at the Greeley-Weld County Airport (elevation 4,697 feet), Greeley, Colorado, was as follows: wind calm; visibility 10 statute miles; clear of clouds; temperature 99 degrees Fahrenheit; dew point 34 degrees Fahrenheit; altimeter setting 29.94 inches. The calculated density altitude was 8,393 feet.

**AIRPORT INFORMATION**

The Greeley-Weld County Airport (elevation 4,697 feet), Greeley, Colorado, is not serviced by a control tower. The airport has three asphalt runways: runway 09-27, 6,200' by 100'; runway 34-16, 10,000' by 100'; and runway 35-17, 3,599' by 75 feet. The airport has five instrument approaches, and is serviced by a Common Traffic Advisory Frequency 122.8 MHz.

National Transportation Safety Board

**FACTUAL REPORT****AVIATION**

NTSB ID: DEN02FA084

Occurrence Date: 07/31/2002

Occurrence Type: Accident

**Narrative** (Continued)**WRECKAGE AND IMPACT DOCUMENTATION**

The airplane came to rest upright, approximately 30 feet left of runway 9's centerline, approximately 5,200 feet down the runway (N40 degrees, 26.14'; W104 degrees, 37.93'; elevation 4,697 feet). A runway surface scar, approximately 532 feet in length, of gouges, scratches, transfer material, and debris led to the airplane. The thermal damaged airplane was longitudinally orientated approximately 140 degrees.

All of the airplane's major components were accounted for at the accident site. Both wings were in place. The flight control surfaces were all identified and their control cable continuity was confirmed. All the cockpit controls and instrumentation were consumed by fire. Both horns (handles) were separated from the left control yoke

The propeller remained attached to the crankshaft flange. Blade "A" displayed "S" bending, leading edge gouging, and was twisted in the direction of low pitch. The "B" blade was twisted in the direction of low pitch, and the outboard 10 inches (the tip) had separated. The broken tip displayed cordwise gouging on the back of the blade. The engine was rotated to confirm internal continuity, and "thumb" compression was obtained on all cylinders.

No preimpact engine or airframe anomalies, which might have affected the airplane's performance, were identified.

**MEDICAL AND PATHOLOGICAL INFORMATION**


An autopsy was performed on the student pilot by the Greeley Pathologists LLP, Northern Colorado Medical Center, Greeley, Colorado, on August 1, 2002.


The FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma, performed toxicology tests on the student pilot. According to CAMI's report (#200200199001), the student pilot's blood was tested for carbon monoxide, cyanide, and volatiles (ethanols) with negative results. The drug bupropion (trade name Wellbutrin) was found in the student pilot's blood and urine; it is a prescription drug for depression, attention deficit hyperactivity disorder (ADHD), and smoking cessation. The flight instructor said that the student pilot told him he was taking the drug for an attention deficit disorder (difficulty in focusing). The pilot's wife said that he was taking it for smoking cessation.


The flight instructor received a broken back and second degree burns.

**ADDITIONAL DATA**

The airplane, including all components and logbooks, was released to a representative of the owner's insurance company on August 27, 2002.

 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: DEN02FA084				
		Occurrence Date: 07/31/2002				
		Occurrence Type: Accident				
<b>Landing Facility/Approach Information</b>						
Airport Name Greeley-Weld County Airport		Airport ID: GXY	Airport Elevation 4697 Ft. MSL	Runway Used 09	Runway Length 6200	Runway Width 100
Runway Surface Type: Asphalt						
Runway Surface Condition: Dry						
Type Instrument Approach: Unknown						
VFR Approach/Landing: Unknown						
<b>Aircraft Information</b>						
Aircraft Manufacturer Cessna		Model/Series 172K		Serial Number 17259083		
Airworthiness Certificate(s): Normal						
Landing Gear Type: Tricycle						
Homebuilt Aircraft? No		Number of Seats: 4	Certified Max Gross Wt. 2300 LBS	Number of Engines: 1		
Engine Type: Reciprocating		Engine Manufacturer: Lycoming	Model/Series: O-320-E20	Rated Power: 150 HP		
<b>- Aircraft Inspection Information</b>						
Type of Last Inspection Annual		Date of Last Inspection 04/2002	Time Since Last Inspection 94 Hours	Airframe Total Time 7740 Hours		
<b>- Emergency Locator Transmitter (ELT) Information</b>						
ELT Installed? Yes		ELT Operated? No	ELT Aided in Locating Accident Site? No			
<b>Owner/Operator Information</b>						
Registered Aircraft Owner  Light Plane Rentals		Street Address 601 Crosier Ave				
		City Greeley	State CO	Zip Code 80631		
Operator of Aircraft  Harris Aviation		Street Address 625 Airport Road				
		City Greeley	State CO	Zip Code 80631		
Operator Does Business As: Harris Aviation			Operator Designator Code:			
<b>- Type of U.S. Certificate(s) Held: None</b>						
Air Carrier Operating Certificate(s):						
Operating Certificate:			Operator Certificate:			
Regulation Flight Conducted Under: Part 91: General Aviation						
Type of Flight Operation Conducted: Instructional						
<div>FACTUAL REPORT - AVIATION</div> <div>Page 2</div>						

 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: DEN02FA084																																																																																
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<b>First Pilot Information</b>																																																																																		
Name		City		State	Date of Birth	Age																																																																												
On File		On File		On File	On File	32																																																																												
Sex: M	Seat Occupied: Right	Principal Profession: Unknown		Certificate Number: On File																																																																														
Certificate(s): Flight Instructor; Commercial																																																																																		
Airplane Rating(s): Multi-engine Land; Single-engine Land																																																																																		
Rotorcraft/Glider/LTA: None																																																																																		
Instrument Rating(s): Airplane																																																																																		
Instructor Rating(s): Airplane Single-engine																																																																																		
Type Rating/Endorsement for Accident/Incident Aircraft? No				Current Biennial Flight Review?																																																																														
Medical Cert.: Class 2		Medical Cert. Status: Valid Medical--w/ waivers/lim.		Date of Last Medical Exam: 02/2002																																																																														
<table border="1"> <tr> <th>- Flight Time Matrix</th> <th>All A/C</th> <th>This Make and Model</th> <th>Airplane Single Engine</th> <th>Airplane Multi-Engine</th> <th>Night</th> <th colspan="2">Instrument Actual      Simulated</th> <th>Rotorcraft</th> <th>Glider</th> <th>Lighter Than Air</th> </tr> <tr> <td>Total Time</td> <td>830</td> <td></td> <td>750</td> <td>35</td> <td></td> <td>18</td> <td>43</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pilot In Command(PIC)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Instructor</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 90 Days</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 30 Days</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 24 Hours</td> <td>1</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument Actual      Simulated		Rotorcraft	Glider	Lighter Than Air	Total Time	830		750	35		18	43				Pilot In Command(PIC)											Instructor											Last 90 Days											Last 30 Days											Last 24 Hours	1	1	1							
- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument Actual      Simulated		Rotorcraft	Glider	Lighter Than Air																																																																								
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Seatbelt Used? Yes		Shoulder Harness Used? Yes		Toxicology Performed? No		Second Pilot? Yes																																																																												
<b>Flight Plan/Itinerary</b>																																																																																		
Type of Flight Plan Filed: None																																																																																		
Departure Point		State	Airport Identifier	Departure Time	Time Zone																																																																													
Same as Accident/Incident Location			GXY	1659	MDT																																																																													
Destination		State	Airport Identifier																																																																															
Local Flight																																																																																		
Type of Clearance: None																																																																																		
Type of Airspace: Class E																																																																																		
<b>Weather Information</b>																																																																																		
Source of Briefing: Unknown																																																																																		
Method of Briefing: Unknown																																																																																		

 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>			NTSB ID: DEN02FA084		
			Occurrence Date: 07/31/2002		
			Occurrence Type: Accident		

<b>Weather Information</b>					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
GXY	1645	MDT	4697 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Clear				Ft. AGL	Condition of Light: Day
Lowest Ceiling: None			Ft. AGL	Visibility: 10 SM	Altimeter: 29.94 "Hg
Temperature: 37 °C		Dew Point: 1 °C	Wind Direction:		Density Altitude: 8393 Ft.
Wind Speed:		Gusts:	Weather Conditions at Accident Site: Visual Conditions		
Visibility (RVR): Ft.		Visibility (RVV) SM	Intensity of Precipitation:		
Restrictions to Visibility: None					
Type of Precipitation: None					

<b>Accident Information</b>					
Aircraft Damage: Destroyed		Aircraft Fire: Ground		Aircraft Explosion: None	
Classification: U.S. Registered/U.S. Soil					
- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot		1			1
Second Pilot					
Student Pilot	1				1
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers					
- TOTAL ABOARD -	1	1			2
Other Ground					
- GRAND TOTAL -	1	1			2

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FACTUAL REPORT - AVIATION	Page 4
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National Transportation Safety Board

**FACTUAL REPORT**  
**AVIATION**

NTSB ID: DEN02FA084

Occurrence Date: 07/31/2002

Occurrence Type: Accident

## Administrative Information

Investigator-In-Charge (IIC)

James F. Struhsaker

Additional Persons Participating in This Accident/Incident Investigation:

Tom Forchtner  
FAA FSDO  
Denver, CO 80249